

Healthy & Sustainable Environment – Cause & Effect Map



As a community Bellevue values...

- Services and infrastructure that reliably ensure public health and safety, as well as protect the environment.
- Stewardship **and education** that sustain a healthy environment for current and future generations.
- A healthy natural environment that supports wildlife.
- A nature experience in which to live, work, learn and play.



Factors:

Air

- Energy efficient transportation options
- Greenhouse gas reduction
- Pollution prevention and reduction
- Preserved and expanded tree canopy

Water

- Reliable delivery of clean water
- Surface and storm water management
- Wastewater management

Natural Environment

- Healthy lakes, streams and wetlands
- Improved wildlife habitat
- Expanded greenbelts, natural areas and open space
- Trails management

Built Environment

- Streets free of waste and debris
- Reduction, reuse and recycling of resources
- Solid waste and hazardous materials management
- Sustainable building and development

Key Community Indicators:

- % of residents who agree the City of Bellevue provides, water, sewer, and wastewater services and infrastructure that reliably ensure public health and protect the environment.
- % of residents who agree that Bellevue is doing a good job of creating a healthy natural environment that supports healthy living for current and future generations.
- % of residents who agree that Bellevue's environment supports their personal health and well-being.
- % of residents who agree that Bellevue offers them opportunities to experience nature where they live, work, and play.

Key Performance Indicators:

- % of days/year in compliance with state and federal drinking water regulations
- % change in citywide tree canopy
- % of total waste recycled or composted (residential and nonresidential) as captured in the City's solid waste collection contract
- % change in greenhouse gas emissions
- % of trips by mode for Bellevue resident workers



Request for Results Healthy & Sustainable Environment

The 2015-2016 Healthy & Sustainable Environment Results Team:

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Introduction

This Request for Results (RFR) outlines the results and factors that will be used to evaluate and rank operating and capital offers for the Budget One process. Resident¹ focused outcomes were approved by City Council and form the basis for developing the City Manager's Preliminary Budget. This document provides guidance to staff in developing proposals for the 2015-2016 Operating Budget and 2015-2021 Capital Investment Program Plan for submittal to the Healthy & Sustainable Environment Results Team (RT).

The City of Bellevue's stunning and unique natural environment includes wetlands, urban forests, salmon-bearing streams, and the shores of Lake Washington and Lake Sammamish. These features have played an integral role in the history and culture of the City. Despite ongoing development and dramatic growth, the City can still claim its reputation as a "City in a Park" due to the continued presence of natural assets that contribute significantly to livability and economic vitality. Access to and interactions with the natural environment help nurture, support and maintain the personal health and well-being of Bellevue's residents. In addition, the City provides a healthy living environment for residents, employees, and visitors by meeting the community's needs for reliable and safe drinking water, effective wastewater management, and solid waste services. The economic viability of our community and the health of our residents are highly dependent on the reliability of these essential services.

City leaders embrace their responsibility for stewardship of these resources and effectively manage City services to foster a high quality of life and to support economic prosperity. These are complex but essential goals for the City's long-term prosperity as both its leaders and residents wrestle with issues of unprecedented growth, urbanization, road congestion, and changes in community character.

A healthy and sustainable environment (HSE) is a key resident value and provides a basis for addressing many of these concerns. HSE refers to living collectively, abundantly, and perpetually on a planet with finite and often competing demands for resources. In an urban setting, sustainable approaches include the efficient use of resources through conservation, re-use, and recycling, as well as sustainable building practices. These approaches offer solutions with multiple benefits because, more than any other problem-solving framework, sustainability intrinsically requires solutions that optimize both global and local systems and recognize complex interdependencies, rather than optimizing isolated components. Bellevue residents have consistently confirmed that environmental stewardship is a deeply held community value and a high budget priority.

¹ Residents in this RFR refers to anyone who lives, plays, works or visits Bellevue.



Request for Results Healthy & Sustainable Environment

The Healthy & Sustainable Environment results team requests proposals that address the factors described in this document and that offer innovative solutions to protect, restore, and enhance our natural resources.

Community Value Statements

As a community, Bellevue values:

- Services and infrastructure that reliably ensure public health and safety, as well as, protect the environment.
- Stewardship that sustains a healthy environment for current and future generations.
- A healthy natural environment that supports wildlife.
- A nature experience in which to live, work and play.

Key Community Indicators

Community Indicators are measures that provide information about past and current trends. They provide insight that community leaders and others can use in making decisions that affect future outcomes. In the case of Budget One, they are high level indicators of resident opinion that guide Council Outcomes and are the basis of the Community Value Statements. They are gathered annually and provide insight into the overall direction of an intended outcome – whether conditions are improving, declining, or status quo. The Community Indicators related to Healthy and Sustainable Environment are:

- % of residents who agree that Bellevue provides water, sewer, and wastewater services and infrastructure that reliably ensure public health and protect the environment.*
- % of residents who agree that Bellevue is doing a good job of creating a healthy natural environment that supports healthy living for current and future generations.
- % of residents who agree that Bellevue's environment supports their personal health and well-being.
- % of residents who agree that Bellevue offers them opportunities to experience nature where they live, work, and play.

*Please note this Indicator was added for this budget cycle.

Key Performance Indicators

Key Performance Indicators are a quantifiable expression of the amount, cost, or result of activities that indicate how well, and at what level, services are provided. They provide a snapshot of current performance and track whether actual performance is getting better, staying the same, or worsening. Performance Indicators measure whether an Outcome is achieving the community's desired result. We have identified the following Key Performance Indicators as having key roles in achieving the factors set forth below:



Request for Results Healthy & Sustainable Environment

- % of days/year in compliance with state and federal drinking water regulations
- % change in citywide tree canopy
- % of total waste recycled or composted (residential and nonresidential) as captured in the City's solid waste collection contract
- % change in greenhouse gas emissions
- % of trips by mode for Bellevue resident workers.

Factors

The Healthy and Sustainable Environment Results Team identified four primary factors it believes have the most impact on achieving its outcome. They are air, water, natural environment, and built environment. The Cause & Effect Map illustrates these factors and their associated sub-factors. The following is a description of these factors, as well as the choices and assumptions used by the team in developing its map. These factors are directly reflected in the team's purchasing strategies. Your proposals may address one or more of the factors.

Factor 1: Air

Air is an essential element for the survival of all living things. Eliminating or reducing air pollutants that pose health risks, and maintaining or creating programs that support ecosystem services, are essential for a healthy and sustainable environment. Key sub-factors that affect air quality include:

Energy Efficient Transportation Options

Emissions from motor vehicles represent the largest source of air pollution in our region. Vehicles discharge fine particles and toxic gases which endanger our health and our environment. This makes reducing vehicle miles traveled one of the most important actions we can take to protect air quality. Examples of encouraging energy efficient transportation options include:

- Regulating land use to support development of compact, walkable, bikeable, and transit friendly communities
- Maintaining and expanding safe and convenient walking and biking infrastructure
- Providing incentives for energy efficient modes of transportation, clean vehicles and fuels, and disincentives for SOV use
- Educating residents and workers about their transportation options, fuel and vehicle choices, and about proper vehicle maintenance

Greenhouse Gas Reduction

Unchecked global warming will cause widespread disruption of ecosystems and economies. Water is a critical element of our natural capital. Snowpack stores water for our hydroelectric system and agricultural use, for drinking, and for wildlife habitat. Other anticipated climate impacts on the region include loss of forests to pests and wildfire and more extreme weather events such as flooding.

Reducing greenhouse gases to preserve climate stability can be achieved by means such as:

- Promoting clean sources of energy such as wind, solar, geothermal
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Request for Results Healthy & Sustainable Environment

- Reducing vehicle miles traveled
- Encouraging use of energy efficient technologies such as green building
- Reusing/recycling “waste” energy/products such as waste heat and methane
- Reducing energy use in commercial and residential buildings

Pollution Prevention and Reduction

Preventing air pollution and reducing air pollutants can be achieved by targeting major sources such as:

- Diesel and gasoline vehicle exhaust
- Restaurant emissions and cooking odors
- Wood smoke from fireplaces, wood stoves, and outdoor fires
- Dust from construction activities
- Gas-powered yard equipment exhaust

Preserved and Expanded Tree Canopy

Strategically planted trees and other plants can help conserve energy in the summer by providing shade and cooling buildings/paved surfaces, and in the winter, by screening buildings from wind. In addition to helping conserve energy, trees remove carbon from the atmosphere through photosynthesis, as well as absorb and trap airborne dirt and chemical particles, such as nitrogen oxide, sulfur dioxide, carbon monoxide, and ozone. Trees also help reduce air pollution by reducing wind speed, allowing heavy particles to settle out. Ways of preserving and expanding Bellevue’s tree canopy include:

- Regulating tree removal/replacement and planting of street trees
- Tree stewardship programs educating residents about the benefits of trees and proper tree planting and care
- Reforestation of degraded open space
- Land acquisition to retain tree canopy

Factor 2: Water

The supply, storage and conveyance of water are critical services for the community. Water is vital to personal health, economic viability and a healthy environment. Key sub-factors that impact water include:

Reliable Delivery of Clean Water

High-quality drinking water is not only safe to drink but also free of contaminants that adversely affect its look, taste and smell. Ensuring that drinking water purchased from Cascade Water Alliance (as well as drinking water obtained from well systems) and conveyed to homes and businesses is safe, reliable and high quality is essential to the health and well-being of Bellevue residents. Ways to ensure that Bellevue has a clean, reliable supply of drinking water include:

Request for Results Healthy & Sustainable Environment

- Routinely confirming that Bellevue's supply contract with the Cascade Water Alliance is adequate to meet future demand
- Routinely confirming that Bellevue's water source is managed in a way that best protects water quality
- Regulating the use of toxic materials
- Developing and maintaining adequate water storage facilities and pipelines
- Monitoring water quality and inspecting for potential hazards on a routine basis
- Removing and neutralizing toxic spills
- Educating businesses and homeowners about:
 - Water conservation practices
 - Safe, effective, non-toxic alternatives to toxic substances
 - Ways to prevent back flow of contaminated water
 - Proper handling and disposal of hazardous materials

Surface and Storm Water Management

With urbanization comes greater impervious surface, which increases stormwater runoff, the potential for flooding, and the flow of pollutants into streams, lakes and wetlands. Stormwater must be managed to minimize damage from flooding, protect surface water quality, support fish and wildlife, and protect the environment.

Ground and surface waters may be degraded by both natural and human-made pollutants such as sediment, pathogens, nutrients, metals, dissolved oxygen, temperature, pH, pesticides, mercury and organics. Protecting the quality of ground and surface water by managing stormwater runoff is essential to the health of fish and wildlife and to the enjoyment and perception of the natural environment.

A reliable supply of high-quality surface water is also important for meeting the recreational needs of residents and meeting the needs of plants, fish and wildlife. Ways to minimize damage from stormwater include:

- Encouraging rainwater reuse by installing storage systems such as cisterns or rain barrels
- Ensuring compliance with state and federal stormwater regulations for runoff control and water quality
- Increasing water infiltration and minimizing impervious surface through the use of:
 - amended, well-drained soils
 - pervious pavement/sidewalks
 - green roofs
 - bioswales
 - rain gardens

Wastewater Management

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Wastewater and sewage must be safely removed from homes, businesses and elsewhere and treated for safe release back into the environment. King County provides wastewater treatment for Bellevue. However, some Bellevue residents use septic systems to treat their wastewater. Ways to ensure the safe and reliable removal and treatment of wastewater include:

- Regulating and enforcing what can and cannot be disposed of in Bellevue's wastewater system
- Providing wastewater facilities that are right-sized to meet the current and future needs of Bellevue's residents and businesses
- Maintaining wastewater conveyance pipes and pumps
- Confirming King County's treatment of wastewater is meeting water quality standards
- Educating residents and businesses about the safe disposal of hazardous materials and the most common causes of sewer backups and best practices to avoid them.

Examples include:

- installing and maintaining grease traps and interceptors
- putting wipes in the garbage
- composting food scraps

Factor 3: Natural Environment

Enhancing and preserving the functions and values of the natural environment is essential to achieving a healthy and sustainable environment. Key sub-factors that are part of the natural environment include:

Healthy Lakes, Streams and Wetlands

Healthy lakes, streams and wetlands are key to ensuring a sustainable environment for the future. They provide habitat for wildlife, a source of recreation for people, and food for all species. They also perform valuable functions such as improving water quality, water storage and water conveyance. Continuing to have a clean ecosystem will ensure that we have a healthy and sustainable environment for future generations. Ways of achieving clean and healthy lakes, streams and wetlands include:

- Regulating uses within critical areas and shorelines to avoid impacts, to provide protective buffers, and to compensate for unavoidable impacts
- Educating residents and businesses about best practices in critical areas and shoreline buffers, in natural yard care, and in other best practices.

Improve Wildlife Habitat

One of the major threats to wildlife is loss of habitat. Ways to manage and maintain wildlife habitats include:

- Preserving existing wildlife habitats through acquisition, especially areas that link habitat and recreational areas
 - Restoring damaged habitats
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- Educating residents and businesses about native plantings that support wildlife

Expanded Greenbelts, Natural Areas and Open Space

Lands that remain significantly unchanged from their natural state or have been restored to support native plants and wildlife provide habitat for a variety of wildlife species, reduce noise pollution, are a source of recreation for people and have aesthetic value. Preserving, maintaining, and restoring/reestablishing greenbelts, natural areas and open space ensure future generations will benefit from these assets. Ways of establishing and maintaining greenbelts, natural areas and open space include:

- Restoring damaged natural areas
- Educating residents and businesses on best practices for creating and maintaining green space
- Preserving and protecting existing natural areas through acquisition, especially areas that link habitat and recreational areas
- Encouraging clustering of development to create open space

Trails Management

Trails provide people access to the natural environment, enabling them to appreciate first hand its aesthetic values and witness the complexity of ecosystem functions being performed. Constructing trails in appropriate locations minimizes their negative environmental impacts. Ways to achieve access to the natural environment include:

- Constructing trails in appropriate locations
- Encouraging construction of trail connections throughout the city

Factor 4: Built Environment

Growth and development must be encouraged in a manner consistent with environmental sustainability. Key sub-factors that help achieve a sustainable built environment include:

Streets Free of Waste and Debris

Clean streets are important to the environment because they help facilitate safe walking and biking, help prevent flooding, and reduce dust particles in the air and debris in catch basins. Ways to keep streets free of waste and debris include:

- Street sweeping
- Removal and disposal of road kill
- Roadside vegetation control

Reduction, Reuse and Recycling of Resources

Conservation ensures valuable natural resources are used efficiently, reducing waste and the costs associated with disposal. Natural resources include water, energy, land, and the materials they produce. Reducing, reusing and recycling are the three pillars of conservation. Examples of conserving resources include:

Request for Results Healthy & Sustainable Environment

- Reducing the use of water, energy, land and the materials they produce by:
 - making well informed decisions around full lifecycle costs when deciding what to consume
 - encouraging the use of products and appliances that consume less resources
 - minimizing the use of consumable products
 - encouraging conservation practices and behaviors such as green building and low impact development
 - encouraging development of compact, walkable communities and other strategies that preserve natural areas
- Reusing water, energy, land and materials they produce by:
 - encouraging the use of rain barrels and cisterns to store water for future use
 - providing training/technical assistance for the reuse of grey water
 - providing incentives for reusing waste heat energy
 - reusing salvage materials
- Recycling water, energy, land and the materials they produce by:
 - providing convenient methods for recycling paper, glass, metal, plastics, yard and food waste in both residential and commercial settings
 - providing incentives for infill and redevelopment of underutilized land
 - capturing waste methane for energy use
 - purchasing products made from recycled materials
 - educating residents and businesses about the most effective means to reduce reuse and recycle

Solid Waste and Hazardous Materials Management

Keeping our City clean and free of waste, debris, and toxic materials is essential to public health, the environment and maintaining Bellevue's high quality of life. Examples of keeping our City clean include:

- Disposing of hazardous materials in a safe manner
- Reducing the use of non-renewable resources and encouraging development and use of local renewable resources
- Removing garbage and recyclables from homes, businesses, and public facilities
- Controlling litter and illegal dumping
- Educating residents and businesses about the proper handling and disposal of hazardous substances

Sustainable Building and Development

Sustainable building and low impact development practices focus on conserving natural resources and restoring ecological processes such as natural drainage. Both are key strategies for achieving a healthy and sustainable environment. Examples of encouraging green building and low impact development include:



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- Adopting policies that facilitate sustainable building and low impact development techniques
- Providing incentives for energy conservation programs as part of the development process, including charging stations and single occupant vehicle reduction programs
- Setting Leadership in Energy & Environmental Design (LEED) certification level goals for new City buildings
- Providing incentives for sustainable policies and practices
- Providing technical assistance, education and training on sustainable policies and practices
- Encouraging restoration of habitat in the built environment through daylighting streams, planting native plants, and installing bioswales

Purchasing Strategies

General Purchasing Strategies:

We will favor proposals that:

- Have a direct relationship between the proposal and the outcome
- Deliver results in an environmentally sensitive, equitable and sustainable way, including procurement of environmentally friendly products and services
- Offer process improvements to create program efficiencies
- Consider a broad range of strategies - capital investments, operations, services, regulations (codes and compliance), incentives, education, community outreach, training and other programs
- Make well informed decisions around full lifecycle costs when deciding what to consume
- Foster community collaboration and partnership and incorporate the broad diversity of residents and businesses
- Create synergy to achieve multiple benefits

Factor Specific Purchasing Strategies:

We are seeking proposals that best promote clean **air** by targeting the many factors that enhance air quality, specifically proposals that:

- Reduce air pollution through clean air practices
- Restore, preserve, and enhance Bellevue's tree canopy
- Reduce greenhouse gas emissions with an emphasis on improving energy efficiency
- Promote energy efficient transportation options

We are seeking proposals that ensure clean reliable **water** by meeting the needs of the environment and our community now and into the future, specifically proposals that:



Request for Results Healthy & Sustainable Environment

- Ensure the safe, reliable supply of drinking water to and removal of wastewater from homes and businesses
- Ensure that surface water quality and quantity are adequate to provide a suitable environment for plants and wildlife and to meet the recreational needs of our community
- Ensure that storm and surface water runoff is controlled to minimize negative impacts such as erosion and flooding

We are seeking proposals that promote a **natural environment** which supports healthy living, specifically proposals that:

- Restore, manage, preserve and improve natural environments and the habitats they provide
- Provide community educational opportunities
- Provide opportunities to come into contact with nature

We are seeking proposals that promote a sustainable **built environment**, specifically proposals that:

- Keep our city clean and free of waste, debris, and toxic materials
- Promote reduction, reuse and recycling, conserve valuable resources and discourage excessive consumption
- Encourage low impact and sustainable building and development practices



Request for Results Healthy & Sustainable Environment

Attachment A: List of Primary Evidence

2015-2016 Interviews and Staff Sources

Department	Individual, Position
City Attorney	Jerome Roache, 2013-2014 HSE RT Lead
Civic Services	Emma Johnson, Resource Conservation Manager
Parks and Community Services	Patrick Foran, Director Shelley McVein, Deputy Director Dan DeWald, Natural Resource Manager Doug Sanner, Fiscal and Quality Control Manager
Planning and Community Development	Chris Salomone, Director Dan Stroh, Planning Director Paul Andersson, Program Administrator
Transportation, Streets/Signals	Laurie Gromala, Assistant Director Brian Breedon, Traffic Operations and Maintenance Manager Judy Johnson, Streets Maintenance Supervisor
Utilities	Navdeep Otal, Director Paul Bucich, Assistant Director Joe Harbour, Assistant Director Lucy Liu, Assistant Director Susan Fife-Ferris, Conservation and Outreach Manager Kit Paulsen, Watershed Planning Supervisor

Other Sources

City of Bellevue 2012 Budget Survey Report. February 2012. ORC International.

www.bellevuewa.gov/pdf/Finance/FINAL_J6609847_Bellevue_Budget_Final_Report_March_5_2012.pdf

City of Bellevue Environmental Stewardship Initiative Strategic Plan, 2013-2018. No date.

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Request for Results Healthy & Sustainable Environment

City of Bellevue Environmental Stewardship Initiative HSE Briefing. February 2014. Planning and Community Development Department.

Fact Sheet for HSE Results Team 2014. February 2014. City of Bellevue Transportation Department, Street Maintenance Division.

Information Sharing for Budget One 2015-16 Budget Process, HSE Results Team. February 20, 2014. City of Bellevue Transportation Department, Street Maintenance Division.

Presentation to Healthy and Sustainable Environment Results Team. February 11, 2014. City of Bellevue Parks & Community Services Department, Natural Resources Division.

Presentation to Healthy and Sustainable Results Team. February 26, 2014. City of Bellevue Utilities Department.

Parks and Open Space System. No date. City of Bellevue Parks and Community Services Department.

Puget Sound Clean Air Agency. www.pscleanair.org

2013-2018 Phase II Western Washington Municipal Stormwater Permit. Washington State Department of Ecology. www.ecy.wa.gov/programs/wq/stormwater/municipal/phasellww/wwwphiipermit.html

United States Environmental Protection Agency. www2.epa.gov/science-and-technology/air-science.

Nowak, David; Stein, Susan M; Randler, Paula B.; Greenfield, Eric J.; Comas, Sara J.; Carr, Mary A.; Alig, Ralph J. June 2010. *Sustaining America's Urban Trees and Forests*. United States Department of Agriculture.

Urban Ecosystem Analysis, Bellevue Washington. October 2008. American Forests.

100.38NA Attachment 3 Natural Area & Forest Management. No date. Bellevue Comprehensive Plan Environmental Element. City of Bellevue Parks and Community Services Department.